

Application No.: 09/890,482

Case No.: 53852US013

Remarks

Claims 1-5 have been cancelled, claims 11-13, 15-16, 20, 22-23, and 25-26 have been amended, and new claims 28-30 have been added. A replacement Abstract has also been submitted. The pending claims are claims 6-30. Reconsideration and withdrawal of the rejections are respectfully requested.

Claim Amendments

Claims 1-5 were cancelled. Applicants reserve the right to pursue the subject matter of the cancelled claims in subsequently filed divisional or continuation applications.

Claims 11-13, 16, 20, 22-23, and 26 were amended to provide proper antecedent basis.

Claims 15 and 25 were amended to correct a typographical error.

Claims 28-30 were added to more completely claim the subject matter of this application. Support for new claims 28-30 can be found, e.g., in the Specification at page 9, lines 9-11, and page 24, lines 29-31. No new matter was added.

Objection to the Specification

The abstract was objected to because of a typographical error. Applicants have amended the Abstract such that this typographical error is corrected. Reconsideration and withdrawal of this objection is, therefore, respectfully requested.

Objections to the Claims

Claims 3, 5, 15, and 25 were objected to for various informalities. Applicants have cancelled claims 3 and 5, thereby rendering the rejection of such claims moot. Applicants have amended claims 15 and 25 to recite the term "coating" instead of "coatings." Reconsideration and withdrawal of this objection is, therefore, respectfully requested.

The 35 U.S.C. § 102(b) Rejection

Claims 1-3 were rejected under 35 U.S.C. § 102(b) as being anticipated by Arends et al. (U.S. Patent No. 5,360,659).

Application N .: 09/890,482

Cas N .: 53852US013

Applicants traverse this rejection. However, to further move this case towards issuance, Applicants have cancelled claims 1-5, thereby rendering this rejection moot. Withdrawal of such rejection is, therefore, respectfully requested.

The 35 U.S.C. § 103(a) Rejections

Claims 4-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Arends et al. in view of Kawamoto et al. (U.S. Patent No. 5,982,546).

Applicants traverse this rejection. However, to further move this case towards issuance, Applicants have cancelled claims 4-5, thereby rendering this rejection moot. Withdrawal of this rejection, therefore, is respectfully requested.

Claims 6-10 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Arends et al. in view of Kloczek et al. (U.S. Patent No. 6,160,661) and Isoda (U.S. Patent No. 3,928,760).

Applicants traverse this rejection and submit that claims 6-10 are not *prima facie* obvious over the cited references for at least the following reasons. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references must teach or suggest all the claim limitations. See M.P.E.P. § 2143.

Claims 6-10 are not *prima facie* obvious because the combination of Arends et al., Kloczek et al., and Isoda does not teach all of the elements of such claims. For example, independent claim 6 recites an optical filter system that includes an optical filter. The optical filter in turn includes a dielectric reflective layer that is curved.

In contrast to claim 6, the combination of cited references does not teach an optical filter that includes a curved dielectric reflective layer. As admitted by the Examiner, Arends et al. does not teach a curved dielectric reflective layer. The Examiner, however, alleges that Kloczek et al.

Application No.: 09/890,482

Case No.: 53852US013

does teach a curved multilayer optical filter. Applicants traverse this allegation and submit that Kloczek et al. does not teach optical filters at all, especially curved optical filters.

For example, Kloczek et al. teaches an electro-optic system 10 that includes an infrared sensor 12 and a processing unit 14 protected by an infrared transmissive window 16. *See* Kloczek et al., Abstract. The window 16 includes a protective layer 22 of gallium phosphide that protects a substrate layer 18. *Id.* The window 16 also includes an inwardly formed anti-reflective layer 20 formed on the substrate 18 and an outwardly formed anti-reflective layer 26 that is formed on the protective layer 22. *Id.* The anti-reflective layer 26 may be formed of alternating layers of silicon and amorphous carbon. *Id.* at column 4, lines 7-9. The alternating layers of layer 26 “provide for the necessary anti-reflective effects as well as providing for additional wear resistance for the window 16.” *Id.* at column 4, lines 10-13. A “filter” is defined as “a device used to attenuate particular wavelength frequencies while passing others with relatively no change.” *See* Photonics Dictionary (<<http://www.photonics.com/dictionary>>, accessed April 19, 2004). Kloczek et al. does not teach that the antireflective layers 20 and 26 and/or the protective layer 22 attenuate particular wavelength frequencies. In other words, one skilled in the art would not consider any of the layers taught by Kloczek et al. to include an optical filter or filters. The addition of Isoda does nothing to cure this deficiency already present in Arends et al. and Kloczek et al. Therefore, none of the cited references teach an optical filter that includes a curved dielectric reflective layer.

Even if the combination of cited references does teach all of the elements of independent claim 6, Applicants submit that there is no suggestion or motivation to combine the teachings of Arends et al. with those of Kloczek et al. and Isoda to produce the invention as claimed in claim 6. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *See* M.P.E.P. § 2143.01.

For example, Arends et al. teaches a two-component infrared reflecting film that includes alternating layers of first and second diverse polymeric materials. *See*, Arends et al., Abstract. Arends et al. does not teach or suggest an optical filter that includes a curved dielectric reflective

Application No.: 09/890,482

Case No.: 53852US013

layer. In contrast to Arends et al., Klocek et al. teaches an infrared sensor and a processing unit protected by a protective infrared transmissive window. See Klocek et al., Abstract. Apparently, Klocek et al. does not filter any particular wavelengths of light from reaching the infrared sensor. Instead all of the light incident on the transmissive window passes through the window to the sensor. In other words, Klocek et al. does not teach an optical filter that includes a curved dielectric reflective layer. Further, Isoda does not teach or suggest a curved optical filter. Absent some motivation to combine the teachings of Klocek et al. with those of Arends et al. and Isoda, the required burden for a case of *prima facie* obviousness has not been met.

In addition, independent claim 6 is not *prima facie* obvious because one skilled in the art would not possess a reasonable expectation of success when combining the teachings of the cited references to produce the present invention as claimed in claim 6. For example, the Examiner alleges that one skilled in the art would be motivated to combine the IR reflective filter of Arends et al. as a protective shield for an IR sensor, as taught by Klocek et al., for protecting against external degrading factors, which may include unwanted EM radiation and IR radiation interference noise, as taught by Isoda. Applicants traverse this alleged motivation. One skilled in the art would not reasonably expect the IR filter taught by Arends et al. to work as a protective shield for the sensor taught by Klocek et al. because neither Arends et al. nor Klocek et al. teach that such filters would provide adequate protection for the device taught by Klocek et al. The devices taught by Klocek et al. are designed to withstand environmental degradation that may be exacerbated if the device is on a high speed platform like a plane or a missile as is common in military applications. See Klocek et al., column 1, lines 40-43. To that end, Klocek et al. teaches an anti-reflective layer 26 on the outermost surface of the window 16 that provides for additional wear resistance. *Id.* at column 4, lines 6-13. There is no teaching or suggestion in either Klocek et al. or Arends et al. that the filters of Arends et al. would withstand such environmental degradation.

Claims 7-10, which depend from independent claim 6, are not *prima facie* obvious for the same reasons as presented above for claim 6. In addition, each of claims 7-10 recited additional elements that further support patentability when combined with independent claim 6.

Applicati n No.: 09/890,482

Case No.: 53852US013

For at least the above reasons, Applicants submit that claims 6-10 are patentable over the cited references. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Claims 11-19 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Arends et al. in view of Lechter (U.S. Patent No. 5,101,139) and Okamura et al. (U.S. Patent No. 6,104,530).

Applicants traverse this rejection and submit that claims 11-19 are not *prima facie* obvious because there is no suggestion or motivation to combine the cited references to produce the present invention as claimed in claims 11-19. For example, the Examiner alleges that one of skill in the art would have been motivated to include a metallic mesh disposed on the dielectric filter of Arends et al. as taught by Lechter for preventing the passage of spurious electric fields through the dielectric filter and onto the IR sensor. Applicants traverse this alleged motivation. There is no suggestion or motivation in the cited references to produce the combination proposed by the Examiner. For example, Arends et al. is silent regarding the addition of wire mesh to the described IR filters. Nor is there any teaching in Arends et al. for the desirability of preventing electric fields from passing through its filters.

The addition of Lechter does nothing to cure this deficiency already present in Arends et al. For example, Lechter teaches a video display that includes a metallic screen that permits the passage of light but inhibits the passage of electric fields. *See* Lechter, column 2, lines 6-10. Lechter, however, is silent regarding the filtering of infrared radiation in the described displays. Further, Lechter does not teach coating the disclosed metallic screens on a polymeric dielectric reflective layer as allegedly taught by Arends et al. Instead, Lechter teaches forming conductive mesh or film on a glass or plexiglass backing. *Id.* at column 2, lines 56-58. One skilled in the art would not be motivated to combine the teachings of Lechter with those of Arends et al. to produce the claimed invention because of this lack of motivation. Further, the addition of Okamura et al. does nothing to cure the above-mentioned deficiencies.

Claims 12-19, which depend from independent claim 11, are not *prima facie* obvious in view of the cited references for the same reasons as presented above for claim 11. In addition,

Application No.: 09/890,482

Case No.: 53852US013

claims 12-19 each recite additional elements that further support patentability when combined with independent claim 11.

For at least the above reasons, Applicants submit that claims 11-19 are patentable over the cited references. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Claims 20 and 22-27 were also rejected under 35 U.S.C. § 103(a) as being unpatentable over Arends et al. in view of Klocek et al. and Isoda, and further in view of Lechter and Okamura et al.

Applicants traverse this rejection and submit that claims 20 and 22-27 are not *prima facie* obvious in view of the cited references because there is no suggestion or motivation to combine the teachings of the cited references to produce the invention as claimed in claims 20 and 22-27. As stated above in regard to the 35 U.S.C. § 103(a) rejection of claims 11-19, there is no suggestion or motivation to combine the dielectric filters allegedly taught by Arends et al. with the metallic mesh allegedly taught by Lechter. The addition of Klocek et al., Isoda, and Okamura et al. does nothing to cure this deficiency already present in Arends et al. and Lechter. In other words, there is no suggestion or motivation in Klocek et al., Isoda, or Okamura et al. to combine the dielectric filters allegedly taught by Arends et al. with the metallic mesh allegedly taught by Lechter to produce the invention as claimed in claims 20 and 22-27.

For at least the above reasons, Applicants submit that claims 20 and 22-27 are patentable over the cited references. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Claim 21 was also rejected under 35 U.S.C. § 103(a) as being unpatentable over Arends et al. in view of Klocek et al. and Isoda, and further in view of Lechter and Okamura et al., and further in view of Woodruff et al. (U.S. Patent No. 6,469,685).

Applicants traverse this rejection and submit that claim 21 is not *prima facie* obvious in view of the cited references because there is no suggestion or motivation to combine the cited references to produce the invention as claimed in claim 21. For example, claim 21 depends from independent claim 20 and, therefore, includes all of the elements of claim 20. As stated above in

Application No.: 09/890,482

Case No.: 53852US013

regard to the 35 U.S.C. § 103(a) rejection of claim 20, there is no suggestion or motivation to combine the teachings of Arends et al., Kloczek et al., Isoda, Lechter, and Okamura et al. to produce the invention as claimed in claim 20. The addition of Woodruff et al. does nothing to cure the deficiencies already present in the other cited references in regard to claim 21.

Woodruff et al. teaches a display panel filter that includes an EMI/IR shielding film composed of a combination of dielectric and conductive layers. *See* Woodruff et al., column 4, lines 44-48. As shown in FIG. 3 of Woodruff et al., the disclosed EMI/IR shielding film includes alternating layers of dielectric materials (50, 54, 58, and 61) and electrically conductive materials (51, 55, and 59). In other words, Woodruff et al. does not teach or suggest a dielectric reflective layer that includes alternatively stacked first polymer layers and second polymer layers as is recited in claim 20, nor does Woodruff et al. teach or suggest the types of filters disclosed in Arends et al. In other words, one skilled in the art would not be motivated to combine the filters of Arends et al. with the EMI/IR filter of Woodruff et al. to produce the present invention as recited in claim 21, i.e., there is no motivation in the cited references to use the dielectric reflective layer as recited in claim 20 with a plasma display device as recited in claim 21 of the present invention.

For at least the above reasons, Applicants submit that claim 21 is patentable over the cited references. Reconsideration and withdrawal of this rejection are, therefore, respectfully requested.

Application No.: 09/890,482

Case No.: 53852US013

Summary

It is respectfully submitted that the pending claims are in condition for allowance. Reconsideration and withdrawal of all rejections are respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

April 19, 2004
Date

Respectfully submitted,

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